Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Section 90.494	)	
of the Commission's Rules and	)	RM- ~~[illegible]~~
Regulations Concerning Shared Use	)	
of 900 MHz Paging Frequencies	)	

To: The Commission

PETITION FOR RULE MAKING
OF THE
ASSOCIATION FOR PRIVATE CARRIER PAGING SECTION
OF THE
NATIONAL ASSOCIATION OF BUSINESS
AND EDUCATIONAL RADIO, INC.

Respectfully submitted,

ASSOCIATION FOR PRIVATE CARRIER
CARRIER PAGING

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SUMMARY

In order to promote the continued growth and expansion of wide-area, regional 900 MHz PCP systems and to prevent the channel sharing problems which have developed on paging channels below 900 MHz, the Association for Private Carrier Paging Section of the National Association of Business and Educational Radio, Inc. ("APCP") requests that the Commission amend its rules to provide for the recognition of channel "protection" for 900 MHz PCP licensees who satisfy certain transmitter construction criteria. The new rules should provide that once a minimum number of transmitters have been constructed by the licensee in a defined area, as set forth below, would be "protected" in that no transmitter site of another licensee will be authorized less than seventy (70) miles from a transmitter site which is entitled to protection.

APCP requests that the Commission classify 900 MHz PCP systems as Local, Regional and National. A protected Local System would consist of at least six (6) or more contiguous transmitter sites in a market, except in New York, Los Angeles and Chicago, which would require a minimum of eighteen (18) transmitter sites. Protected Local System transmitter sites to be protected pursuant to APCP's proposal would have a standard mileage separation from co-channel systems of seventy (70) miles.

A Regional System would consist of seventy (70) or more transmitter sites in not more than twelve contiguous (12) states. For Regional Systems, the transmitter sites would not need to be

contiguous in order to be afforded protection from co-channel systems. However, as with a Protected Local System, a Regional System would have a standard mileage separation from co-channel systems of seventy (70) miles from each transmitter site.

A National System would consist of 300 or more transmitters sites in any number of locations throughout the United States. For a National System, there will not be any protected system contour as no additional systems will be licensed on that frequency anywhere in the country.

APCP recognizes that it may be difficult for applicants proposing more than thirty (30) transmitter sites to construct each site within eight (8) months. Therefore, APCP requests that the Commission provide that applicants for more than thirty (30) sites can request "slow growth" authorization, similar to Section 90.629 of the Commission's Rules.

In order to ensure that applicants do not request transmitter sites purely for speculative or protection purposes, APCP believes that the Commission should have minimal transmitter requirements for sites to be protected. Specifically, the Commission should require that each transmitter in the system to be afforded protection have: (1) minimum output power of 100 watts; (2) simulcast capability; and (3) be part of a functioning paging system.

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The Association for Private Carrier Paging Section of the National Association of Business and Educational Radio, Inc. ("APCP") respectfully submits, pursuant to Section 1.401 of the Commission's Rules, 47 C.F.R. §1.401, a Petition for Rule Making which seeks to amend Section 90.494 of the Commission's Rules to provide for exclusive use of certain Private Carrier Paging channels in the 900 MHz band. In support thereof, the following is shown:

I. BACKGROUND

A. The Association for Private Carrier Paging Section of NABER

In 1989, NABER established the Association for Private Carrier Paging ("APCP"). Since that time, the Association has grown to include in its membership over 200 companies. This group has been actively involved in a variety of Commission proceedings, including filing separate Comments on behalf of APCP in PR Docket No. 88-548 (Frequency Coordination), PR Docket No. 89-552 (Allocation of

220 MHz), and RM-7749 (Modification of Section 90.135(a)(8)). APCP has developed committees which have met with Commission officials on several occasions to discuss issues of importance to APCP, and APCP committees are currently exploring means by which paging systems can more efficiently share the scarce spectrum made available for private carrier paging.

B. **Current Utilization Of Paging Frequencies Below 900 MHz**

There are presently three bands in which there are paging-only frequencies: 150 MHz; 460 MHz; and 929 MHz. In the 150 MHz band, there are two frequencies which are suitable for private carrier paging - 152.480 MHz and 157.740 MHz. The two remaining paging frequencies in the band (154.625 MHz and 158.460 MHz) have significant output power restrictions which severely limit the coverage of systems on the two frequencies. Since PCP systems generally require a wide area of operation to operate effectively, 154.625 MHz and 158.460 MHz are not desireable frequencies for PCP operation and most applicants request 152.480 MHz or 157.740 MHz.

In the 460 MHz band, there are eight (8) frequencies which are suitable for PCP systems. In the 929 MHz band there are twenty (20) frequencies available for PCP systems and twenty (20) frequencies available for non-commercial systems.

As a result of the Commission's action in PR Docket No. 83-737 (wherein the Commission clarified its private carrier rules), the number of new PCP systems has risen dramatically. Further, PCP systems have been extremely successful in terms of a growing customer base. In the major urban areas, this has resulted in

significant crowding and congestion on the 150 MHz and 460 MHz paging-only frequencies.

As an example of paging channel congestion, on 152.480 MHz, the most popular private carrier paging frequency, NABER's records indicate that there are 30 separate paging systems licensed to provide service within a 75 mile radius of New York City. The congestion on 152.480 MHz extends to smaller areas as well. For example, there are 15 separate paging systems licensed to provide service within a 75 mile radius of Charlotte, North Carolina on 152.480 MHz.

In order to address some of the need for additional paging frequencies, NABER filed a Petition for Rule Making on February 2, 1988 requesting the allocation of certain 150 MHz frequencies for paging operation.[1] In the proceeding, the Commission recognized the significant congestion on these paging frequencies.[2] The Commission's action in permitting 350 Watts ERP on 157.740 MHz has helped provide an alternative frequency to 152.480 MHz in some areas of the country.

The 460 MHz frequencies which are available for paging have now become saturated in the major urban areas as a result of the lack of availability of spectrum in the 150 MHz band. The 460 MHz systems in most areas have become established with significant loading and congestion has developed.

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[1]RM-6276.

[2]Notice of Proposed Rule Making, PR Docket No. 88-373, 3 FCC Rcd 4817 (1988) at para. 18; Report and Order, PR Docket No. 88-373, 54 FR 33902 (August 17, 1989) at para. 24.

As the Commission is aware, the crowding on the 150 MHz and 460 MHz paging frequencies has caused considerable litigation between applicants. Further, applicants vying for scarce 150 MHz and 460 MHz paging spectrum has slowed down the frequency coordination process, as applicants and licensees submit reams of paper detailing how a frequency can or cannot support additional systems. The sharing among multiple paging systems is not efficient use of spectrum, since all methods of sharing a frequency inevitably restrict the maximum number of pagers a frequency can accommodate. Since the channels are shared between so many systems, PCP operators have in many cases been unable to efficiently construct wide area system, which has discouraged the further development of paging.

C. **Growth And Development Of 900 MHz PCP Systems**

In recognition of the early growth in the use of paging, 900 MHz private paging frequencies were allocated by the Commission in the early 1980's in General Docket No. 80-183.[3] Initially, the Commission decided to create two pools of private paging frequencies in the band, a Private Carrier Paging Pool and a non-commercial pool.[4] Thirty (30) channels were allocated for non-commercial paging and ten (10) channels were allocated for PCP operation.[5]

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[3]Second Report and Order, PR Docket No. 80-183, 52 RR 2d 321 (1982).

[4]Second Report and Order, supra at para. 30.

[5]Second Report and Order, supra at para. 31.

In 1985, the Commission reexamined its allocation of channels between commercial and non-commercial use. The Commission found that in less than three (3) years of licensing in the band, more than 600 PCP systems had been authorized, while authorizations for less than 30 non-commercial stations had been granted.[6] In order to accommodate the expanding need for 900 MHz PCP spectrum, the Commission reassigned ten (10) of the non-commercial PCP frequencies to the PCP Pool and permitted inter-category sharing beginning January 1, 1987.[7]

Since the Commission's action in PR Docket No. 85-102, the 900 MHz private paging frequencies have continued to expand. As 900 MHz paging transmitters have developed and become more affordable, APCP members have begun to actively establish systems in the band. Although a few 900 MHz PCP frequencies are still available in the major urban areas, such availabilities are rapidly diminishing, and will soon be unavailable. Thus, it can be expected that applications for use of the non-commercial private paging frequencies will be filed via inter-category sharing by PCP systems in the major urban areas.

The majority of the expansion of PCP systems in the 900 MHz band has been by wide-area, regional PCP systems. Since the majority of 900 MHz PCP systems do not currently share their frequencies, monitoring and terminal interconnection equipment has

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[6]Notice of Proposed Rule Making, PR Docket No. 85-102, 50 FR 13997, (April 9, 1985) at para. 3.

[7]Report and Order, PR Docket No. 85-102, 58 RR 2d 1290 (1985).

not been necessary, which has encouraged the expansion of 900 MHz PCP systems over a wide area.

As a result of the fact that most of the channels are not yet shared, 900 MHz PCP systems have been operating more efficiently, as paging batches can be transmitted immediately. This in turn permits greater numbers of users on each system. Further, the lack of shared channels has permitted 900 MHz PCP systems to offer increasingly sophisticated paging options to users.

When the Commission allocated the 900 MHz paging spectrum, it elected not to assign PCP licensees exclusive use of any channel.[8] The Commission believed that the capacity of a single channel with paging traffic would not be utilized by a single PCP licensee, thus leading to "under-utilization of valuable spectrum resources."[9] The Commission also found that such exclusivity was unnecessary based upon the Commission's experiences with paging system capacity on frequencies below 900 MHz.[10]

Although the Commission was initially concerned that 900 MHz PCP frequencies would be under-utilized, the licensing of 600 PCP systems in less than three (3) years demonstrates the interest in the provision of the service. Further, the actual loading on 900

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[8]Second Report and Order, supra.

[9]Report and Order, supra at para. 32.

[10]Id.

MHz PCP systems is growing at a greater rate than anticipated in 1982.[11]

The continued growth of 900 MHz PCP systems is contingent on the ability of each system to expand its customer base. This will enable the systems to offer additional services at affordable rates. On paging frequencies below 900 MHz, shared spectrum has inhibited the growth of PCP systems, as the need for terminal connection and monitoring equipment restricts the total amount of airtime available on a channel. Further, some 900 MHz PCP system operators have been reluctant to "build out" their systems as the prospect of additional licensees on the channel may eliminate the feasibility of a wide area system. The increasing incidences of interference and congestion has also inhibited system expansion below 900 MHz.[12]

II. PETITION FOR RULE MAKING

A. APCP Recommends "Protection" For Certain 900 MHz PCP Channels

It is APCP's goal in this proceeding to avoid at 900 MHz the interference difficulties which have plagued the paging-only channels in the 150 MHz and 460 MHz, as well as encourage the full development of 900 MHz PCP systems. Further, APCP believes that

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[11]NABER now estimates that the number of 900 MHz PCP systems has increased ten fold since 1985.

[12]Although the Commission initially found that its experience with paging frequencies below 900 MHz was that exclusive frequencies were not necessary, it should be recognized that the Commission's experience cited in General Docket No. 80-183 was prior to October, 1986, when the Commission changed its rules regarding PCP systems below 900 MHz. The 1986 rule change (in PR Docket No. 83-737) resulted in significant expansion in the number of PCP systems and the number of users on such systems.

it would be an efficient spectrum management tool for the Commission to encourage 150 MHz and 460 MHz PCP operators to migrate to the 900 MHz band, if possible. However, incentives are needed for 150 MHz and 460 MHz PCP operators to undertake the expensive change-over to 900 MHz systems.

In order to promote the continued growth and expansion of wide-area, regional 900 MHz PCP systems and to prevent the channel sharing problems which have developed on paging channels below 900 MHz, APCP requests that the Commission amend its rules to provide for the recognition of channel "protection" for 900 MHz PCP licensees who satisfy certain transmitter construction criteria.[13] The new rules should provide that once a minimum number of transmitters have been constructed by the licensee in a defined area, as set forth below, would be "protected" in that no transmitter site of another licensee will be authorized less than seventy (70) miles from a transmitter site which is entitled to protection.[14]

B. **Recognition Of Different Types Of Paging Systems**

It is important that the Commission recognize that there are different types of paging systems which are inherently more

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[13]Where non-commercial pool channels are utilized by PCP systems through interpool sharing pursuant to Section 90.494(g) of the Commission's rules, such systems should be permitted to obtain exclusivity consistent with APCP's proposals.

[14]The seventy (70) mile protection is similar to the protection afforded to 900 MHz common carrier stations (47 C.F.R. §22.503(d)), certain, 470 MHz, 800 MHz and 900 MHz private two-way radio stations (47 C.F.R. §90.313 and 90.621) and 220 MHz private two-way radio stations (47 C.F.R. §90.723(f)).

efficient if the system does not share the channel. Primarily, channel sharing is difficult for wide-area systems if the system is to operate efficiently. Such systems can encompass a region, or the entire country.

In contrast, paging systems generally consisting of less than six (6) transmitter sites may efficiently share a frequency with other systems, as generally such systems will be local, and therefore may more easily employ channel sharing techniques.[15] Further, APCP believes that the minimum six (6) transmitter requirement will discourage speculative filings.

It is APCP's belief that the Commission should encourage wide-area systems to locate in (or migrate to) the 900 MHz band, and the Commission should provide protection for systems which are willing to invest millions of dollars in system construction. In this respect, the protection rules being proposed herein require a strict construction schedule and a significant investment in equipment before there is any grant of protection to a licensee.[16]

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[15]It is the analysis of the APCP's Council that a minimum of six (6) transmitter sites are necessary to cover most major urban areas, with the exception of New York, Los Angeles and Chicago, where a minimum of eighteen (18) transmitters are generally necessary to cover the market. However, such coverage would be minimal. Most operators have many more transmitters to cover these markets when they are actively selling service in the area. For example, in Southern California, a typical Los Angeles metropolitan system might consist of 30-50 transmitters.

[16]A typical 900 MHz wide area local system today consists of an average of 30-50 transmitter sites. At today's equipment costs, the capital investment for such a wide area system would be approximately $600,000 to $1,000,000. In addition, such a system would have operating expenses from $6,000 to $10,000 per month for site rental.

When a licensee fails to meet the minimum construction and operational requirements, the channel on which it operates will be subject to sharing by new co-channel licensees.

On this basis, APCP requests that the Commission classify 900 MHz PCP systems as Local, Regional and National. A non-protected Local System would consist of less than six (6) contiguous transmitter sites, except in New York, Los Angeles and Chicago, where a minimum of eighteen (18) transmitters would be necessary to obtain protection.[17] Contiguous transmitter sites would be defined as a single transmitter site which is no more than twenty (20) miles from at least one (1) other transmitter site in the same system.[18] In other words, a ten (10) mile circle would be drawn around each transmitter site. Each circle would need to intersect corresponding circles of at least one (1) other transmitter site.

A protected Local System would consist of six (6) or more contiguous transmitter sites in a market, except in New York, Los Angeles and Chicago, which would require a minimum of eighteen (18) transmitter sites, as discussed above. Protected Local System transmitter sites to be protected pursuant to APCP's proposal would

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[17]See, footnote 15 above. Most importantly, the requirement that a sizeable number of transmitters be constructed as a condition precedent to exclusivity will reduce the likelihood of applications filed purely for speculative purposes.

[18]A local system consisting of more than six (6) transmitter sites which are not contiguous would not be entitled to protection.

have a standard mileage separation from co-channel systems of seventy (70) miles.[19]

A Regional System would consist of seventy (70) or more transmitter sites in not more than twelve contiguous (12) states. For Regional Systems, the transmitter sites would not need to be contiguous in order to be afforded protection from co-channel systems. However, as with a Protected Local System, a Regional System would have a standard mileage separation from co-channel systems of seventy (70) miles from each transmitter site.

A National System would consist of 300 or more transmitters sites in any number of locations throughout the United States.[20] A system consisting of 300 or more transmitters will most likely include all major metropolitan areas. The smaller areas not initially covered by the 300 sites will probably be areas where 900 MHz paging channels are abundant. Therefore, other potential 900

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[19]The "protection" from co-channel system would begin immediately after frequency coordination for the application(s) has been completed, as NABER can then coordinate future applications for different frequencies. For a local or regional exclusive system, the protection would continue until eight (8) months after licensing, at which time the applicant would have been required to build the six (6) or more transmitter sites. At that point, the Commission would send the licensee a construction letter (FCC Form 800-A), as it does today with all 800 MHz stations and some 900 MHz stations, requesting information as to the sites which have been constructed. If the licensee has constructed the necessary number of sites timely, the constructed sites would continue to be afforded protection from co-channel systems.

[20]Construction of 300 or more transmitters could cost six (6) to nine (9) million dollars, with additional monthly site rent of $60,000-$90,000. Clearly, a licensee which expends such an investment is not a speculator. Without protection from co-channel systems, a nationwide system would be hampered in its capacity by having to share with all other co-channel systems.

MHz applicants will not be deprived of channel availabilities. It is APCP's belief that applicants willing to invest the significant investment to construct at least 300 transmitter sites should be able to continue to expand the system throughout the country into less densely populated areas, and the Commission should encourage such expansion.[21] For a National System, there will not be any protected system contour as no additional systems will be licensed on that frequency anywhere in the country.[22]

C. **Requirements For Co-Channel Protection**

In order for an applicant for a Local, Regional or National System to be afforded frequency protection (i.e. no co-channel systems within seventy (70) miles of each transmitter site), it would be necessary for the applicant to construct the minimum number of transmitter sites within the eight (8) month time frame currently required by the Commission's rules.[23] Thus, where a Local PCP system licensed for ten (10) contiguous transmitter sites fails to construct three (3) of the sites within eight (8) months after

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[21]The 300 transmitter site threshold is more than four (4) times the number of transmitter sites necessary for nationwide licensees of 220 MHz two-way systems. See, 47 C.F.R. §90.713.

[22]However, some systems may have already been licensed on the frequency prior to the filing of the nationwide application. In such an event, existing systems should be able to continue operation and expand, if necessary, within the system's current operational area.

[23]In actuality, the applicant will have longer than eight (8) months to construct, as applicants may begin operation immediately after frequency coordination pursuant to Section 90.159(b) of the Commission's Rules.

grant, the system would only be protected for a seventy (70) mile radius of the sites actually constructed.

APCP recognizes that it may be difficult for applicants proposing more than thirty (30) transmitter sites to construct each site within eight (8) months. Therefore, APCP requests that the Commission provide that applicants for more than thirty (30) sites can request "slow growth" authorization, similar to Section 90.629 of the Commission's Rules. The slow growth application should include justification for the extended implementation and should include a specific schedule for construction. It is APCP's recommendation that the Commission require the construction of a minimum of thirty (30) transmitter sites within the first eight (8) months, with the remaining sites to be constructed within two (2) years from the eight (8) month anniversary.[24]

In order to ensure that applicants do not request transmitter sites purely for speculative or protection purposes, APCP believes that the Commission should have minimal transmitter requirements for sites to be protected. Specifically, the Commission should require that each transmitter in the system to be afforded protection have: (1) minimum output power of 100 watts; (2)

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[24]Granting slow growth status would not encourage speculation because in order to qualify for such status, the licensee would be required to construct thirty (30) transmitter sites in the first year, requiring a capital outlay of approximately $600,000 with additional monthly site rental of approximately $6,000. Generally, speculation in Commission licenses has occurred when the speculator has little upfront capital spending required, such as the 220 MHz and 900 MHz SMR applications.

simulcast capability; and (3) be part of a functioning paging system.[25]

D. Currently Licensed 900 MHz PCP Systems

APCP recognizes that there are some existing 900 MHz PCP Systems which may already be entitled to protection under the criteria proposed herein. Such systems should be permitted to demonstrate to the Commission that the systems meet the criteria and, in such an event, the system should be afforded protection. Further, existing systems which do not currently meet the criteria may be able to "grow into protection". The Commission should encourage such PCP systems to achieve channel protection where possible.[26]

Certain situations may arise where a 900 MHz paging channel is shared among several systems, and one or more of the licensees grows to sufficient size to entitle the system to protection. Where this occurs, the Commission should recognize that the existing licensees would receive co-channel protection. No new

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[25]Licensees should be permitted to utilize transmitters of less than 100 watts, or transmitters without simulcast capabilities. A licensee may find it beneficial, for example, to use such transmitters to increase building penetration. However, such transmitters should not count towards the number of transmitters require to achieve channel protection.

[26]No new co-channel systems would be added to channel when the existing licensee files an application to add the requisite number of transmitter sites to be afforded exclusivity and the application is coordinated. However, where a licensee loses exclusivity because of its failure to construct sufficient transmitter sites within the construction period (and therefore become an unprotected system), the licensee would only be able to achieve protection upon filing an application for additional transmitter sites **and** constructing such sites. This will prevent licensees from "rolling over" a system's protected status.

systems would be added to the frequency, although existing licensees could expand their systems.[27]

APCP believes that its request is consistent with recent Commission actions regarding the allocation of private land mobile channels. For example, the Commission has envisioned in its "refarming" Notice of Inquiry the allocation of exclusive private land mobile channels below 470 MHz.[28]

III. CONCLUSION

The time is now appropriate for the redesignation of the 900 MHz PCP channels. There should not be any negative impact on current licensees, as few (if any) of the channels are presently shared, and the shared systems may also acquire channel protection. The use of thresholds to achieve channel protection should prevent speculation by applicants with no intent on constructing systems. Further, the crowding on paging-only frequencies below 800 MHz may encourage some PCP systems to change-out their systems to utilize 900 MHz spectrum, which would lead to greater spectrum efficiency in each of the paging bands.[29]

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[27]The area of exclusivity would be defined as a seventy (70) mile radius of the transmitter sites of the system entitled to exclusivity (except for nationwide systems), not the aggregate transmitter sites of all of the licensees, as this could result in a chain reaction leading to exclusivity hundreds of miles from the qualifying system's transmitter sites.

[28]Notice of Inquiry, PR Docket No. 91-170. In fact, the culmination of the Commission's action in PR Docket No. 91-170 may be that the only private land mobile channels which are not available on an exclusive basis are the 900 MHz paging channels.

[29]In addition, APCP continues to strongly support the Commission's efforts to ensure that licensed channels are constructed consistent with their authorizations. Only constructed

WHEREFORE, the Association for Private Carrier Paging Section of the National Association of Business and Educational Radio, Inc. respectfully requests that the Commission adopt a Notice of Proposed Rule Making and amend Section 90.494 of its rules consistent with this Petition.

Respectfully submitted,

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(or recently licensed) sites would receive protection.